# SUPPLEMENTARY MATERIAL

# Supplementary Table 1: List of oral antidiabetic drug codes

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| --- | --- |
| Antidiabetics class | YJ code |
| First 4 digits | 5-7 digits |
| SU | 3961 | 001, 002, 003, 004, 006, 007, 008 |
| BG | 3962 | (any) |
| SGLT2i | 3969 | 018, 019, 020, 021, 022, 023 |
| α-GI | 003, 004, 009 |
| TZD | 007 |
| DPP-4i | 010, 011, 012, 014, 015, 016, 017, 024, 025 |
| Glinide | 006, 008, 013 |

Abbreviations: α-GI=alpha-glucosidase inhibitors; BG=biguanides; DPP-4i=dipeptidyl peptidase-4 inhibitors; SGLT2i=sodium glucose co-transporter-2 inhibitors; SU=sulfonylureas; TZD=thiazolidinediones.

# Supplementary Table 2: List of ICD10 or Japan-specific standardized disease codes used for assessing diabetes-related complications

| **DCSI score** | **ICD-10† or Japan-specific standardized diagnosis code** |
| --- | --- |
| **Retinopathy** |
| 1 | E11.3E14.3 | Type 2 diabetes mellitus, With ophthalmic complicationsUnspecified diabetes mellitus, With ophthalmic complications |
| 1 | H35.0H35.6H35.8H35.9 | Background retinopathy and retinal vascular changesRetinal hemorrhageOther specified retinal disordersUnspecified retinal disorder |
| 1 | 88309808838768 | Cystoid macular edema |
| 2 | H33.x | Retinal detachments and breaks |
| 2 | H35.2 | Other proliferative retinopathy |
| 2 | H54.x | Blindness and low vision |
| 2 | H43.1 | Vitreous hemorrhage |
| **‡Nephropathy** |
| 1 | E11.2E14.2 | Type 2 diabetes mellitus, With renal complicationsUnspecified diabetes mellitus, With renal complications |
| 1 | N00.x | Acute nephritic syndrome |
| 1 | N04.x | Nephrotic syndrome |
| 1 | N08.x | Glomerular disorders in diseases classified elsewhere |
| 1 | N03.x | Chronic nephritic syndrome |
| 1 | N05.x | Unspecified nephritic syndrome |
| 1 | 884410688475778847578884757988475808847581 | CKDCKD Stage 1CKD Stage 2CKD Stage 3CKD Stage 3aCKD Stage 3b |
| 1 | Lab | Serum creatinine ≥1.5 but ≤ 2.0 mg/dL |
| 1 | Lab | eGFR ≥30 but ≤ 59 mg/dL (CKD Stage 3) |
| 2 | 884758288475838848103N18.0N18.9N19.x | CKD Stage 4CKD Stage 5CKD Stage 5DEnd-stage renal diseaseChronic renal failure, unspecifiedUnspecified renal failure |
| 2 | Lab | Serum creatinine >2 mg/dL |
| 2 | Lab | eGFR < 30 mg/dL (CKD Stage 4-5) |
| **Neuropathy** |
| 1 | E11.4E14.4 | Type 2 diabetes mellitus, With neurological complicationsUnspecified diabetes mellitus, With neurological complications |
| 1 | G90.0 | Idiopathic peripheral autonomic neuropathy |
| 1 | G56.xG57.xG58.7 | Mononeuropathies of upper limbMononeuropathies of lower limbMononeuritis Multiplex |
| 1 | G60.9 | Hereditary and idiopathic neuropathy, unspecified |
| 1 | G73.0 | Myasthenic syndromes in endocrine diseases |
| 1 | I95.1 | Orthostatic hypotension |
| 1 | 8848108 | Diabetic gastroparesis |
| 1 | K59.1 | Functional diarrhea |
| 1 | N31.9 | Neuromuscular dysfunction of bladder, unspecified |
| 1 | M14.6 | Charcôt’s joint |
| 1 | S04.xH49.0H49.1H49.2 | Injury to cranial nerveThird [oculomotor] nerve palsyFourth [trochlear] nerve palsySixth [abducent] nerve palsy |
| **Cerebrovascular** |
| 1 | G45.x | Transient cerebral ischemic attacks and related syndromes |
| 2 | I61.x | Intracerebral hemorrhage |
| 2 | I63.xI64.xI65.xI66.xI69.0 | Cerebral infarctionStroke, not specified as haemorrhage or infarctionOcclusion and stenosis of precerebral arteries, not resulting in cerebral infarctionOcclusion and stenosis of cerebral arteries, not resulting in cerebral infarctionSequelae of cerebrovascular disease |
| **Cardiovascular** |
| 1 | I24.x | Other acute ischemic heart disease |
| 1 | I20.x | Angina pectoris |
| 1 | I25.0, I25.1, I25.3-I25.9 | Chronic ischemic heart disease |
| 1 | I70.0, I70.1, I70.8, I70.9 | Atherosclerosis |
| 2 | I21.xI22.xI23.x | STEMI and NSTEMISubsequent STEMI and NSTEMIComplications following STEMI and NSTEMI |
| 2 | I25.2 | Old myocardial infarction |
| 2 | I47.2 | Ventricular tachycardia |
| 2 | I48.x | Atrial fibrillation and flutter |
| 2 | I49.0 | Ventricular fibrillation and flutter |
| 2 | I46.x | Cardiac arrest |
| 2 | I50.x | Heart failure |
| 2 | I70.2 | Atherosclerosis of arteries of extremities |
| 2 | I71.x | Aortic aneurysm/dissection |
| **Peripheral Vascular Disease** |
| 1 | E11.5E14.5 | Type 2 diabetes mellitus, With peripheral circulatory complicationsUnspecified diabetes mellitus, With peripheral circulatory complications |
| 1 | I72.4 | Aneurysm of artery of lower extremity |
| 1 | I73.9 | Peripheral vascular disease, unspecifiedIntermittent claudication |
| 1 | S91.3 | Open wound of foot |
| 2 | A48.0 | Gas gangrene |
| 2 | I74.3 | Embolism and thrombosis of arteries of the lower extremities |
| 2 | L97.x | Ulcer of lower limb, not elsewhere classified |
| 2 | R02.x | Gangrene, not elsewhere classified |
| **Metabolic** |
| 2 | E11.1E14.1 | Type 2 diabetes mellitus, With ketoacidosis complicationsUnspecified diabetes mellitus, With ketoacidosis complications |
| 2 | E11.0E14.0 | Type 2 diabetes mellitus, With comaUnspecified diabetes mellitus, With coma |

†ICD-10 2003 version (second revision) was used (<http://apps.who.int/classifications/apps/icd/icd10online2003/fr-icd.htm>). Algorithms developed in prior studies[27, 28] were followed.

‡Laboratory test results were used where available. When the criterion by laboratory test results and by diagnosis did not match, the higher score was chosen.

Abbreviations: CKD=chronic kidney disease; DCSI=Diabetes Complication Severity Index; eGFR=estimated glomerular filtration rate; STEMI=ST-segment elevation myocardial infarction, NSTEMI=non-ST-segment elevation myocardial infarction

